Space Weather Forecast

Issued on Monday, 30 May 2022 at 01:16 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

Space Weather Forecast Headline: Slight chance of Moderate-class flares.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity has been Very Low with no significant flares observed. There are three sunspots on the visible disc. Two are simple, benign regions. The other, in the northwest quadrant has shown modest development in the past 12-hours, but remains magnetically rather simple. No Earth directed CMEs (coronal mass ejections) have been observed in coronagraph imagery in the last 24 hours.

Solar Wind / Geomagnetic Activity: The solar wind, has been slightly elevated to elevated in the presence of a solar fast wind throughout the period. Total magnetic field was largely weak, with the north-south component also varying weakly. Geomagnetic activity was mainly Quiet to Unsettled, but increased to Active between 29/1500-1800 UTC.

Energetic Particles / Solar Radiation: No solar radiation storms were observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is expected to be mainly Low or Very Low, but with a slight chance of Moderate-class flares. This is mainly due to an active region that recently crossed over the western limb, or new sunspot regions that are expected to rotate over the eastern limb in the coming days.

Solar Wind / Geomagnetic Activity: There is a chance of a glancing blow from a CME on day 3 (1st June). Earth is currently in a high speed solar wind environment from a coronal hole with elevated solar winds. As the influence of the coronal hole wanes, wind speeds should ease to slightly elevated or perhaps background levels by the end of day 4 (2nd June). Geomagnetic activity is expected to be mainly Quiet to Unsettled on day 1 (30th) with a slight chance of Active intervals and a very slight chance of G1/Minor Storms. Mainly Quiet conditions are then likely with a very slight chance of Active or G1/Minor Storms on day 3 due to the possible CME arrival.

Energetic Particles / Solar Radiation: Solar radiation storms are extremely unlikely.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	5	1	5	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	5	5	5	5
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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